PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Sergei Vasilievich BORODAEV et al

Serial No.: 10/671489 Examiner: Christopher P. Bruenjes

Filed: September 29, 2003 Group Art Unit: 1772

For: POLYMER FILM FOR FOOD PRODUCTS

SUPPLEMENTAL AMENDMENT

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Supplementing the Amendment filed August 27, 2007, kindly introduce the attached Declaration Under 37 C.F.R. §1.132 in the above-captioned application. This Declaration sets forth the comparison results by the person who conducted and analyzed the tests. Should there be any questions, kindly call the undersigned attorney.

Respectfully submitted,

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By: _____

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Atty. Dkt. No.: P69119US0
Date: September 6, 2007
Enclosure: Declaration Under 37 C.F.R. §1.132

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Sergei Vasilievich BORODAEV et al.

Serial No. 10/671,489

Filed: September 29, 2003

Confirmation Number: 8483 Attorney Docket: P69119US0 Group Art Unit: 1772 Examiner: Christopher P. BRUENJES

For: POLYMER FILM FOR FOOD PRODUCTS AND A PACKAGING FROM A POLYMER FILM FOR FOOD PRODUCTS

DECLARATION UNDER 37 C.F.R. § 1.132

1. I/We, Sergei Vasilievich BORODAEV, am/are a citizen of Russian Federation and reside at ul. 2-ya Koltsevaya, 94, Rostov-na-Donu.

2. I/We am/are the inventor(s) of the U.S. Patent Application Serial No. 10/671,489 as identified above.

3. I/We am/are familiar with the above-referenced U.S. patent application and the references of Imanishi et al. (US Pat. No. 6,054,209) and Kumaki et al. (US Pat. No. 6,617,381) cited by the Examiner.

4. I/We respectfully submit that that **films** according to Imanishi and the present application **are not identical.** I/We have tested the film tear strength (the right angle method) in accordance with teaching of Imanishi. The test results of the film tear strength according to the present application (US No 10/671,489) are summarized in the Table below.

Table 1

Example No (according to the present Application)	Tear direction	1	3	5	11
Right angle tear strength, kg/cm	MD	198.3	207.4	169.4	241.6
	TD	264.4	135.9	164.3	166.3

As can be seen from the table, the films, in accordance with the examples of the invention Nos. 1,3, and 5, have values of "right angle tear strength" in any direction which significantly exceed the upper limit of this value, 120 kg/cm (claim 12) claimed in Imanishi and are comparable with the values characterizing the films consisting of pure polyamide (example 11 of the present application).

5. This fact is connected both with the difference in the polymeric composition of films produced according to Imanishi and according to the present invention and with difference in the manufacturing technology thereof:

(1) The films composed from the mixture of polyamide and hydrophilic compounds in accordance with the present invention are not illustrated in the embodiment examples of Imanishi.

(2) The films according to Imanishi were produced by either using a T-die without a further orientation treatment or by inflation-molding (column 3, lines 40-46 and claim 14 (column 36, lines 13-16)), although a possibility of the film stretching (that can be understood as "orientation") is mentioned in the description but not in the Examples.

(3) The films according to the present invention are produced by using **orientational drawing followed by** relaxation annealing (called also "thermofixation" or "thermal fixation") (see present application US No 10/671,489, example 1, page 4, paragraph [0047] and examples 2-11), which, as known for a person skilled in the art, significantly affects film mechanical properties and **structure (degree of crystallinity, the size of crystallites of polyamide matrix, etc.)** that is confirmed by the difference in tear strength values. Therefore, the lack of such operation as thermal fixation in Imanishi should result in nonconformity of other properties, such as, for example, permeability with respect to water vapor or phenol. This is confirmed by the vapor permeability of the films produced according to examples 1, 3, 5 and comparative example 11 (the film produced from PA 6.66 only) of the present invention, **but without the use of annealing** (thermofixation), shown in Table 2.

Table 2. Vapor permeability g/m day

Example № (the film composition according to the present Application)	1	3	5	11
With relaxation annealing (the process according to the present Application)	453	509	480	216
Without relaxation annealing	280	297	312	198

The use of such technology of manufacturing thereof is motivated by the objects of the invention - producing films which have good mechanical properties (a tensile strength) and are suitable for use as a sausage casing. The method used in this case is typical for producing an oriented tubular polyamide casing and includes extrusion-molding of a tubular parison, named a primary tube followed by biaxial orientation by air-blowing and by simultaneous longitudinal stretching. In this case, the coefficient of longitudinal stretch is not less than 2.6 in one of the directions. This orientation is carried out at temperature 60°C, i.e., above the glass transition temperature of polyamide 6.66 and significantly below the melting point thereof 190°C, and, therefore, is effective.

Furthermore, the film orientation is fixed by relaxation annealing (a thermal fixation), otherwise the film would not have satisfactory dimensional stability and could not be used as a sausage casing.

6. It should be noted that Imanishi fails to mention terms "thermofixation" or "annealing". Thus, it has been demonstrated that films according to the present application differ from the cited art by the most important feature, namely, by tear strength. On the other hand it was shown that the films of composition according to the present Application but produced without thermofixatiori step, which is not intended to apply by Imanishi document, do not meet such an object of the invention as high permeability with respect to water vapor.

7. Therefore, it is improper to use Imanishi et al. (US Pat. No. 6,054,209) and Kumaki et al. (US Pat. No. 6,617,381) as cited by the Examiner as references against the present application under 35 U.S.C. 102. Accordingly, withdrawal of the rejection under 35 U.S.C. 102 is respectfully requested.

8. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patents issuing thereon.

EXECUTED at laboratory of OOO PKF "Atlantis-Pak", ul. Onuchkina, 72, kh. im. Lenina, Aksaisky raion, Rostovskaya obl., Russian Federation this 13 day of August, 2007.

By _____

[Sergei Vasilievich BORODAEV]